



# MAGAZINE

PRICE TWOPENCE

JULY 1953





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FRONT COVER: Home Farm, Fernhurst, a sixteenth-century farmhouse

## OUR CONTRIBUTORS

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NORMAN VIGARS is a Fleet Street cameraman specialising in photographic journalism. He is now a familiar contributor to the Magazine and has done both photographs and text for several successful articles—notably on the Ardeer Recreation Club, the Youth Camp at Metals Division, and the Billingham children's pantomime last Christmas.

## THE FERNHURST STORY

By T. Ainslie Robertson (Chairman of Plant Protection Ltd.)

Eight years ago Plant Protection took over a near-derelict estate of 400 acres in Surrey. Today this estate is a flourishing experimental station of world-wide fame, devoted in part to a large market garden which pays its way and in part to the study and demonstration of how to protect plants against pests and disease.

THE original conception of an experimental station for Plant Protection Ltd. was a very modest one. It was generated spontaneously in the course of the many discussions I had with Steve Cheveley, the present head of Central Agricultural Control, about the years 1942-3, and once it took recognisable shape we co-opted Shirley Stotter as expert adviser because he ran a successful nursery at Cranleigh and presumably knew something about it.

We decided that when we disclosed to the Board the birth of this dream-child we should crave indulgence on the classic excuse that "it was only a little one." So we worked out the economics of running ten acres of market garden in the Colnbrook area; but the child was growing at an alarming pace, and when Shirley Stotter (who has been in charge of Fernhurst since the beginning) announced he had found a suitable property of 400 acres with a mansion house and several farms it took a little time to realise that this was indeed the same little almost-orphan that aroused our fond hopes a year before.

From then on Messrs. Cheveley and Stotter took charge, leaving to me the unenviable task of explaining away to the Board and to our shareholders the inconsistencies of our progressive recommendations, promising each time not to do it again if they would only approve the latest hideously expensive project.

What we took over at Fernhurst was 400 acres of land (of which 57 acres was woodland), a very large dwelling house, four farmhouses and six cottages. The land was being farmed by the War Agricultural Committee, which was an indication that it had not been intensively cultivated, and it was certainly not in a fit and proper state to be the location of our ideal experimental station.

We took possession in 1945, and the first year was spent in mopping-up operations. The house was cleared of the undergrowth which surrounded it, choking up the gutters and blocking the windows, the gardens were cleared of weeds and thistles, hedges were bulldozed out of existence,



GRADING AND PACKING glasshouse tomatoes for Covent Garden. Roughly 100 tons are marketed every year.

fields were drained, roads were straightened and relaid, and a plan was made.

The plan was governed by the contours of the estate, which is roughly split in two by a stream. On one side we proposed to grow commercial crops, on the other to conduct experiments and give demonstrations. Meanwhile the grounds of the mansion house and walled garden were to be made show-places to impress future visitors.

This plan is still followed. Its threefold purpose has its advantages and its difficulties. It involves maintaining in the same establishment a heterogeneous staff, of which one part is primarily concerned with commercial horticulture, one part with the study and demonstration of methods of protecting plants against pests and diseases, and one (a smaller and neuter section) devoted to convincing visitors that their colleagues of both the other sections are admirable in their work, men whose methods and achievements should be studied and imitated.

As we enter the commercial growing section we find a nice straight road running through 50 acres of cultivated land. When Fernhurst was taken over, this was farmland divided into eight fields, badly drained and in poor physical condition. Hedges and ditches have been eliminated, and the soil has been well cultivated every year since 1946.





DEMONSTRATION PLOTS at Fernhurst, where the effects of weedkillers, seed dressings and fungicides are shown. In the right-hand distance can be distinguished the outline of the new Fernhurst laboratories opened last year.

While Fernhurst is a loyal purchaser of I.C.I. fertilizers, it needs in addition (and gets) large applications of farmyard manure, and the texture of the soil and its fertility have been gradually raised to the present satisfactory level. In writing "satisfactory" I have in mind the level in 1946; there is still a long way to go before the soil reaches that condition of deep friable fine tilth which is found in the best market garden. A recent visit to Mr. David Lowe in East Lothian showed me what many years

of good treatment could do for soil, and I returned to Fernhurst suitably chastened.

About two acres of the market garden are taken up with glasshouses, in which the main crops are tomatoes and carnations. The tomato houses have done very well, and Fernhurst can stand comparison with commercial growers of this crop anywhere in the country. In one house, in its second year, the crop was at the rate of 90 tons 4 cwt. per acre, against a national average of about 45 tons. One of

the notable features of the tomato houses is the system of injecting soluble fertilizer in minute doses into the watering system from time to time.

The carnations, naturally, delight the visitor, and they are, besides, a lucrative crop. Other flowers are grown out of doors, gladioli interplanted with lettuce under dutch lights, and a notable stand of chrysanthemums.

But the main emphasis is on ordinary vegetables, all of which find a ready market at Spitalfields or Covent Garden, and I have no doubt that beans, peas, potatoes, cabbages and so on from Fernhurst have gone down many an appreciative I.C.I. gullet and been given an anonymous tribute for their excellent flavour.

### *Lovely Orchards*

Leaving the market garden we cross the valley through which the stream runs and come to the orchards, which extend to about 70 acres. It is really a lovely sight to see these orderly rows of trees—mainly apples, but with pears, plums and soft fruit in addition—covered with blossom in spring and with fruit in autumn. The trees were planted as maidens in 1946–7 on what was formerly neglected agricultural land. They are not, of course, near full maturity, but already they yield so great a crop that I am again under orders to seek consent from our shareholders for capital expenditure—this time for a gas chamber.

The first request for such an installation naturally provoked some startled enquiry, but the explanation is that fruit can be kept in good condition in such a chamber until supplies are scarce and prices become remunerative.

Fernhurst is the headquarters of the technical department of Plant Protection Ltd. under Dr. Holmes, and if Fernhurst did not exist, accommodation would have to be found for the department somewhere else. It is, however, a great advantage that they can work in close touch with the commercial growing section, whose reactions to suggestions for adopting plant protection measures reflect fairly accurately the reactions of farmers and growers throughout the country, and thus serve as a warning or an encouragement as the case may be. Warnings are usually conveyed in forthright and emphatic terms, while encouragement is qualified and given with various provisos. However, the idiom is understood.

A new block of "laboratories" was recently completed at Fernhurst, but this name could be misleading. There are indeed facilities for washing test tubes, and various specimens of diseased plants excite curiosity here and there. The main purpose of the laboratories is, however, to provide office space for study and for writing up reports on trials, very few of which take place at Fernhurst.

Plant Protection is at the end of a long chain of effort from I.C.I. Divisions through Jealott's Hill and Haw-

thorndale. By the time our staff get a product the next stage is to see how it works on a commercial scale when used on farms or orchards all over the world. The members of the technical department are therefore usually away from headquarters, and return to record and interpret their experimental work and discuss it with colleagues and with the sales departments.

The name of Fernhurst has acquired a valuable reputation all over the world. In 1951 the Company staged an international conference at Fernhurst and delegates of about forty nations attended. It was astonishing how many of them had been in contact, personal or by correspondence, with our scientific staff at Fernhurst before then; and it is gratifying that in every country I have visited since then (quite a number) I am greeted by technical officials who speak in warm phrases about their cordial welcome at Fernhurst and who throw open doors which would otherwise be very difficult to pass through on the business of the Company.

Finally, we have the section of Fernhurst which is devoted to the education of visitors, to inculcate in them a proper appreciation of the prestige and achievements of Plant Protection Ltd. All kinds of parties visit Fernhurst every day between April and September.

### *Thousands of Visitors*

On one day you may have a Young Farmers' Club from Essex and a party of N.A.A.S. officials from a hundred miles away, seasoned by a mycologist from Ceylon and an entomologist from Sweden; the next day the field representatives of some of our merchants will be rubbing shoulders with tomato growers from Guernsey and visitors from I.C.I. overseas companies. And so it goes on—2,500 visitors were shown the works at Fernhurst during 1952.

"The works" include a series of demonstration plots showing the effects of Plant Protection products on different crops, and a further series showing all the different weeds a farmer may encounter, with a member of the Fernhurst staff to give advice on the best way to control them.

Finally, a brief word on the social side. Fernhurst gives facilities for all the social activities which are common to most I.C.I. establishments, but its pride and joy is the cricket field, which was made from a bulldozing start to a velvet finish. The end opposite the marquee is backed by magnificent old trees, a wonderfully dignified setting for the feverish activity of our budding Comptons. So peaceful is the scene that I am told (and with shame have been compelled to believe) that elderly gentlemen sometimes fall asleep while watching a match, their deep breathing blending in harmony with the cawing crows in the immemorial elms.



# THE HILL MAN

ARDEER can pay no finer compliment to a man than to say "He's good on the hill." Not all men have the admirable qualities needed to satisfy this cautious specification. A good man on the hill is cool-headed and reliable. He is deliberate, methodical, observant, intelligent, and very attentive. He is a responsible man, well deserving the respect he gets from thousands in Ardeer. In that large factory there are between sixty and seventy hill men.

Hill men are bound together by the tradition and interest of their important work. They attend to the transformation of glycerine into a powerful explosive—the straw-coloured, oily fluid nitroglycerine, which is the basis for a large range of commercial explosives vital to British industry. The hill on which they work contains all the buildings and chemical equipment needed to produce stable nitroglycerine for explosives manufacture.

This and more I learned as I went to meet Willie Boyd, who has been a good man on the hill for more than twenty-five of his forty-three years' service. When I met Willie he had changed into his hill clothes—pocketless blue serge tunic and trousers. Under the tunic he wore a navy blue woollen jersey with a large red I.C.I. roundel on the chest. The tunic was fastened with tapes instead of buttons, and he wore also a blue serge bonnet.

The nitrating house was immaculately clean and orderly, its floors covered with sheet lead. On an upper platform were the stainless steel nitrating vessel and other strangely shaped apparatus: separator, leading-in pipes, valves, pressure gauges, thermometers, and three great cylindrical wash columns of gleaming glass, the equipment of Willie's trade.

"Look," said my guide, pointing to a glass tube filled with a clear liquid: "that's the glycerine feed. As the glycerine goes into the nitrator the stirrer pulls it to the bottom."

He described how, at the same time, a mixture of sulphuric and nitric acids was fed to the bottom of the nitrator, and how finely divided glycerine and acid came together there and reacted instantly. In continuous process of stirring, the emulsion of spent acid and nitroglycerine rose upwards through the tubes in a circular collar to the top of the nitrator. Brine circulated around the tubes to keep the temperature of the reaction under control.

As he spoke Willie's eyes surveyed the range of pressure

gauges and thermometers. Now and again after reading the thermometer in the nitrator he made a small adjustment to the brine circulation valve. I glanced through the plate glass top of the nitrator and saw the swirling fluid as the process went on.

"What happens?" I asked.

"Well," he replied, "as the stirring goes on the nitroglycerine and spent acid overflow here." He showed me the outlet tube which led to another closed vessel, the separator. In it the nitroglycerine rises and forms an upper layer because it is less dense than spent acid.

Willie told me that the nitroglycerine still held some acid which must be removed. The nitroglycerine overflows, therefore, and goes to the foot of a wash column where it is caught in an equal volume of water and sent up the column in a current of compressed air. At the top of the column nitroglycerine and water pass into another separator, where layers form again. The nitroglycerine layer is drawn off, and again the fluid is passed through a similar wash column, this time with water containing some sodium carbonate, which neutralises traces of acid.

The outflow from this wash column is led through a rubber pipe to a settling tank in a building at a lower level on the hill. This house is some distance from the first and is approached through a tunnel in the mound. There nitroglycerine and water containing carbonate separate, and the nitroglycerine is ready to be made into blasting explosives compositions.

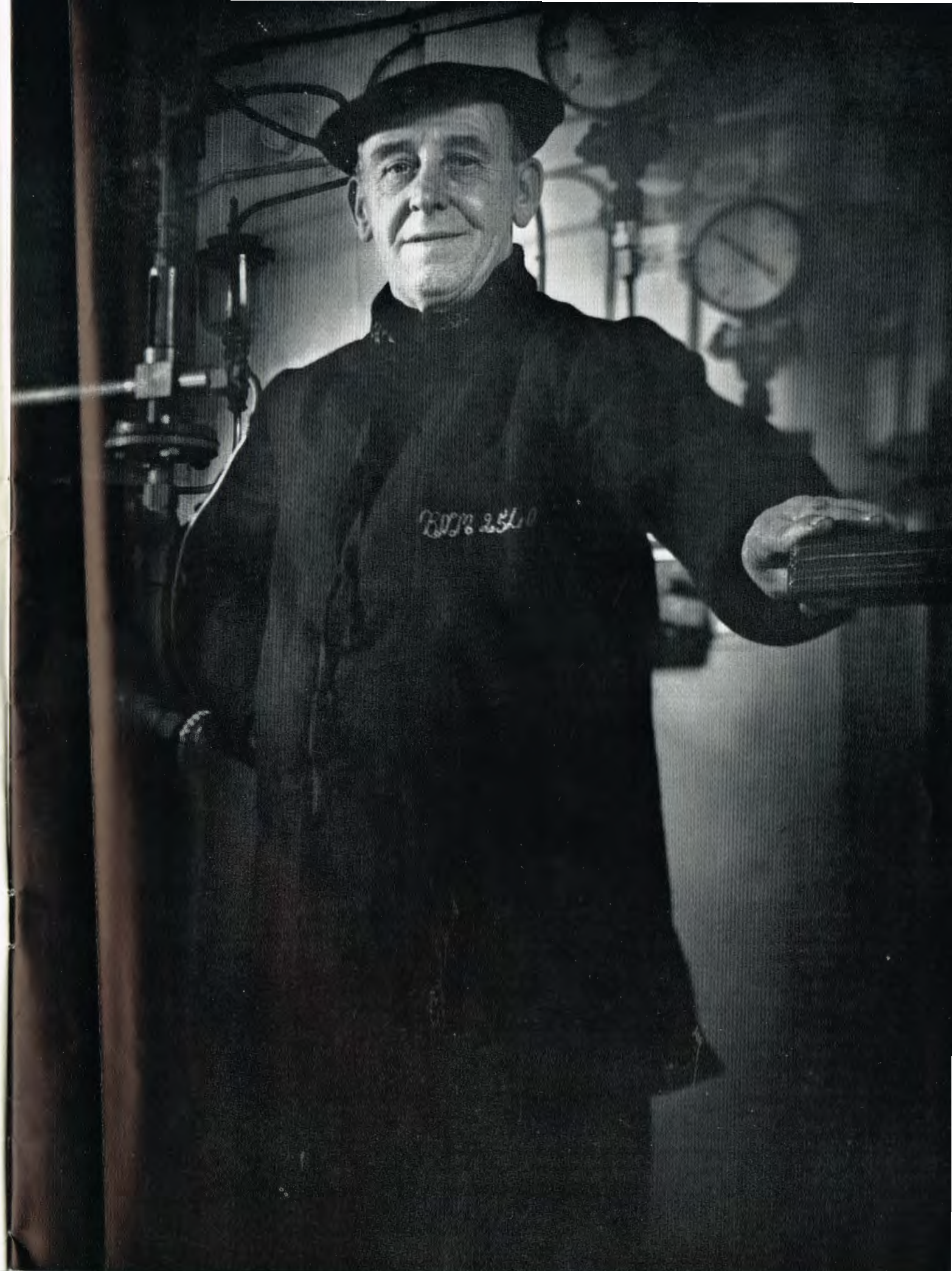
Five men staff the hill, but Willie and his mate have the more demanding jobs.

"You've got to watch the thermometers and all the feeds all the time," Willie said to me. "If the temperature in the nitrator went up too high, an electric circuit would close, a valve would open at the bottom of the nitrator and the whole charge would be drowned in the water tank within twenty-five seconds."

As I left behind the faintly sweet atmosphere of the nitrating house, I asked Willie how much coal would be won with blasting explosives made from his shift production of nitroglycerine.

"Goodness knows!" he replied. "A lot." Later I had the figure roughly worked out for one of the standard mining explosives. It came to about 250,000 tons!

H.H.





# Information Notes

## I.C.I. ACCOUNTS FOR 1952

By J. H. Cotton (Treasurer)

*The Company's net income for 1952 was £13½ million as compared with £20 million the previous year. Yet our total sales turnover achieved record high figures. Here the I.C.I. treasurer explains how increased costs outweighed higher sales and thus reduced profits.*

THE accounts of the Company for 1952 were issued recently, and many readers who have seen copies or have read press reports about them will have noticed that our net income for the year was approximately £13½ million as compared with just over £20 million for 1951.

When one considers the accounts and trading conditions of 1952 one feature stands out clearly. In 1951 prices of all materials and services were rising continuously throughout the year, and this had the effect of making our 1951 income look artificially large. We all know that in times of rising prices, though wages or salaries increase, more income has to be set aside or conserved for the replacement of clothes or any other item of our personal stocks.

In the same way the Company had to set aside in 1951 from the larger income the necessary amount for the replacement of its essential stocks at higher prices. A minimum volume of stocks of raw materials for manufacture and of finished goods for delivery to customers must be held, and if business is to be maintained this volume of stocks must be kept up. When prices continue to increase then so much more of the Company's resources in terms of £'s are required to pay for the day-to-day replacement of stocks as they are used or sold, so that in 1951 the Board found it necessary to set aside from the recorded profit no less than £7 million to a Stock Replacement Reserve in order to retain funds for the replacement of stocks at higher prices and costs.

The year 1952 was very different in that respect, inflation was much less pronounced and the calculations showed that only £700,000 needed to be taken from profits to the Stock Replacement Reserve.

Although the Company's official accounts may appear to be complicated and not easily understood by those not versed in such matters, there appears in the Directors' annual report a shortened and much simplified summary which gives the total

trading results of I.C.I. and of all its subsidiaries, numbering nearly 100.

This is the summarised account, taken from the Directors' report, and also shows the 1951 figures for comparison.

	1951 £ million	1952 £ million
Gross manufacturing and trading proceeds and gross income from investments, etc. . .	267·5	280·3
Raw materials for production and maintenance, purchases for re-sale, and all payments for external services, excluding all wages and salaries . . . . .	159·2	175·5
Wages and salaries . . . . .	55·0	61·2
Pensions and contributions to pension funds . . . . .	4·3	3·9
Depreciation of plant . . . . .	8·9	10·1
United Kingdom and overseas taxation . . . . .	16·6	13·8
Retained as reserves, principally for replacement of fixed assets and stocks . . . . .	18·1	9·6
Distributed as net dividends to stockholders . . . . .	5·4	6·2
	<u>267·5</u>	<u>280·3</u>

Let us look at the items in this summary.

The last two items in this table when added together give the total income after taxation of I.C.I. and all its subsidiaries.

It will, of course, be quickly seen that the total for 1952 at £15·8 million is more than the I.C.I. net income of £13½ million previously mentioned. The reason for this is that I.C.I. does not wholly own the share capital of some of our subsidiaries. For example, there are many Australian shareholders in the capital of Imperial Chemical Industries of Australia and New Zealand Ltd. We must therefore deduct the profits which belong to outside shareholders before arriving at the total which belongs to I.C.I. itself.

Gross manufacturing and trading proceeds and gross income from investments, etc.: £280·3 million. Although investment income and receipts from royalties, rents, etc., are included under this heading, the total is almost wholly composed of

proceeds of sales. The total sales turnover for 1952 reached the record high figure of £276 million, a result achieved in the face of many difficulties. In the early part of the year sales continued to expand, but later on the sales of several of our major products dropped sharply. They were affected adversely in two directions. In the home market the depressed trading conditions in the textile and allied industries meant that our customers in those industries had to reduce their orders for dyestuffs and other chemicals. In the export market some countries found it necessary substantially to restrict, or even temporarily to close down, imports because of their shortage of sterling and other currencies. Towards the end of the year, however, there was an upturn of business, and on the final count we were able to record an increased turnover notwithstanding the handicaps mentioned.

### Increased Costs

It may well be asked why, if our sales went up, our profits did not go up correspondingly. The chief reason for this was that in those I.C.I. Divisions particularly affected by the difficulties in the textile trade and by export restrictions it was necessary to reduce production. When production is curtailed the cost of manufacture of each ton of product inevitably increases. Rents, rates, depreciation and many other expenses remain unchanged and have to be borne whether production is 10,000 tons or 7000 tons, but if the total of charges of this nature have to be spread over 7000 tons instead of 10,000, then the average cost of the manufacture of each ton must manifestly go up. Other working costs have also increased, so that the overall picture is that the increase in costs of manufacture exceeded the increase in sales turnover.

Raw materials for production and maintenance, purchases for re-sale, and all payments for external services, excluding all wages and salaries: £175·5 million. This is really self-explanatory and represents the cost of all raw materials used in production together with the cost of fuel, electricity, water and similar services, together with packages such as drums, boxes, cylinders, carboys, etc. Although the increase over 1951 was fairly substantial we have to remember that prices were going up continually in 1951 until the end of the year and then more or less levelled out in 1952.

Wages and salaries: £61·2 million. The increase of just over £6 million in the wages and salaries bill reflects the upward trend of these costs during the year.

Pensions and contributions to pension funds: £3·9 million. It might appear from the table that we spent less on our pension funds in 1952 than in 1951, but in fact this is not so. Very briefly, the explanation of the apparent reduction is that at the end of 1951 the Staff and Foremen's Pension Funds were being actuarially valued and it was considered necessary to provide in the 1951 accounts for the monies we would be called upon to pay to the trustees to meet the actuarial deficiency. In 1952 this charge for the actuarial deficiency dropped out altogether, although in its place we have a new but smaller charge for improvement in benefits.

Depreciation of plant: £10·1 million. This charge against profits will continue to increase as more of our capital construc-

tion is brought into use. It represents the essential charge for the wear and tear of our plants and their eventual replacement.

Taxation: £13·8 million. The full tax bill for the year was a figure approaching £16 million. However, as a result of settlement during 1952 of some of our wartime tax assessments we were able to withdraw from reserves for tax and set against the total charge an amount of £2 million which it had been necessary to hold against liabilities which were in dispute. Taxes were, in any case, less than last year because there were less profits for tax assessment.

Profits retained in reserves and dividend distributed: £15·8 million. Although the total amount paid in dividends is seen to be up, the rate of I.C.I. dividend was not increased. The larger amount of dividends paid is due to the fact that dividends were paid at the same rate as 1951 on the additional share capital which the Company issued for the purpose of its capital construction programme.

It will be noticed that a very much larger proportion of the total profits had to be set aside to reserves in 1951 than in 1952. This was due in the main to the effects of inflation on our 1951 profits. As has been mentioned earlier, a first charge on the 1951 profits was £7 million to provide for the increased value and cost of replacement of stocks. In 1952 only £700,000 was needed for this purpose, and as the Chairman has said, the net profit for 1952 is on a much firmer basis and nearer to hard reality than was that of 1951.

The other main appropriations from profits in 1952 were £5 million as an additional reserve to meet eventual obsolescence and replacement of assets and £2 million to general reserve; for the rest, the total of £9·6 million shown in the statement is made up of reserves retained by various overseas and other subsidiaries. It should perhaps be made clear at this point that appropriations to reserves are not kept in cash or separately invested in some marketable form. As the heading to this section shows, they are retained in the business and are, in fact, used towards the cost of erecting new and extended plants or in the form of working capital.

### The Balance Sheet

While the Trading and Profit and Loss Account which we have been considering tells us the results of the year's trading, the Balance Sheet shows the capital invested in the business, how the capital has been expended on plant, stocks and all the other assets, and the sources from which the capital employed in the business has been derived. The I.C.I. Balance Sheets at 31st December, 1951 and 1952, can be condensed to the following much shortened form.

ASSETS	31.12.51 £ million	31.12.52 £ million
Land, buildings, plant, machinery, transport, rolling stock, loose tools, furniture, etc. . .	197	214
Patents, goodwill, etc. . . . .	15	15
Investments in subsidiaries and associated companies . . . . .	38	41
Stocks of raw materials, finished goods, etc. . .	56	54
Debtors, cash and marketable securities . . .	29	31
	<u>335</u>	<u>355</u>



LIABILITIES				31.12.51 £ million	31.12.52 £ million
Capital:					
7% preference stock	..	..	..	24	24
Ordinary stock	..	..	..	61	71
Reserves	..	..	..	175	193
Loans to the Company	..	..	..	20	20
Current liabilities, creditors, taxation, etc.	..	..	..	55	47
				335	355

The chief feature on the assets side is the total of £214 million for land, plant and buildings. This is the value in our books after depreciation of all the plants owned directly by I.C.I. (and not through a subsidiary) in this country. Our plants are continually being altered, modernised and extended for the manufacture of new products or to increase the production of existing products. The total new expenditure on capital assets in 1952 was £26 million, and at the end of 1952 we had orders outstanding with contractors and suppliers for nearly £22 million for new plants.

## THE CONQUEST OF EVEREST

By B. R. Goodfellow (India Department)

*The climbing of Everest was in no small measure aided by science, and in this I.C.I. played its part. The story of these scientific preparations is here told by Mr. B. R. Goodfellow, who, as honorary secretary of the Himalayan Committee formed by the Alpine Club and the Royal Geographical Society, helped to lay the foundation of success.*

THE magnificent success of the British expedition to Everest this year means that the last enterprise left to man unaided by machines has been achieved. No expedition ever went better prepared for this supreme endeavour and none has been followed so closely in England during the anxious days which led up to the superbly timed climax.

"Men unaided by machines" is the key phrase; for if the summit held out some glittering prize of economic value—if, for example, it had been known to be of solid uranium—a few millions of pounds would have been spent long ago, a rope railway would be running up to the top, and men working in "space suits" and living in pressurised houses would be established there. But mountaineers climb for the pleasure of climbing and for the satisfaction of matching their skill against the difficulties of the hazards of the peaks. So the biggest mountain of all has been their supreme challenge.

In the many expeditions to Everest in the last 32 years from the north, and latterly from the south, great experience has been amassed of the problems peculiar to a very high mountain. It was known that the purely climbing difficulties of Everest are no greater than those of many first-class peaks in the Alps, which were conquered nearly a hundred years ago, but the extreme altitude of Everest makes straightforward climbing impossible.

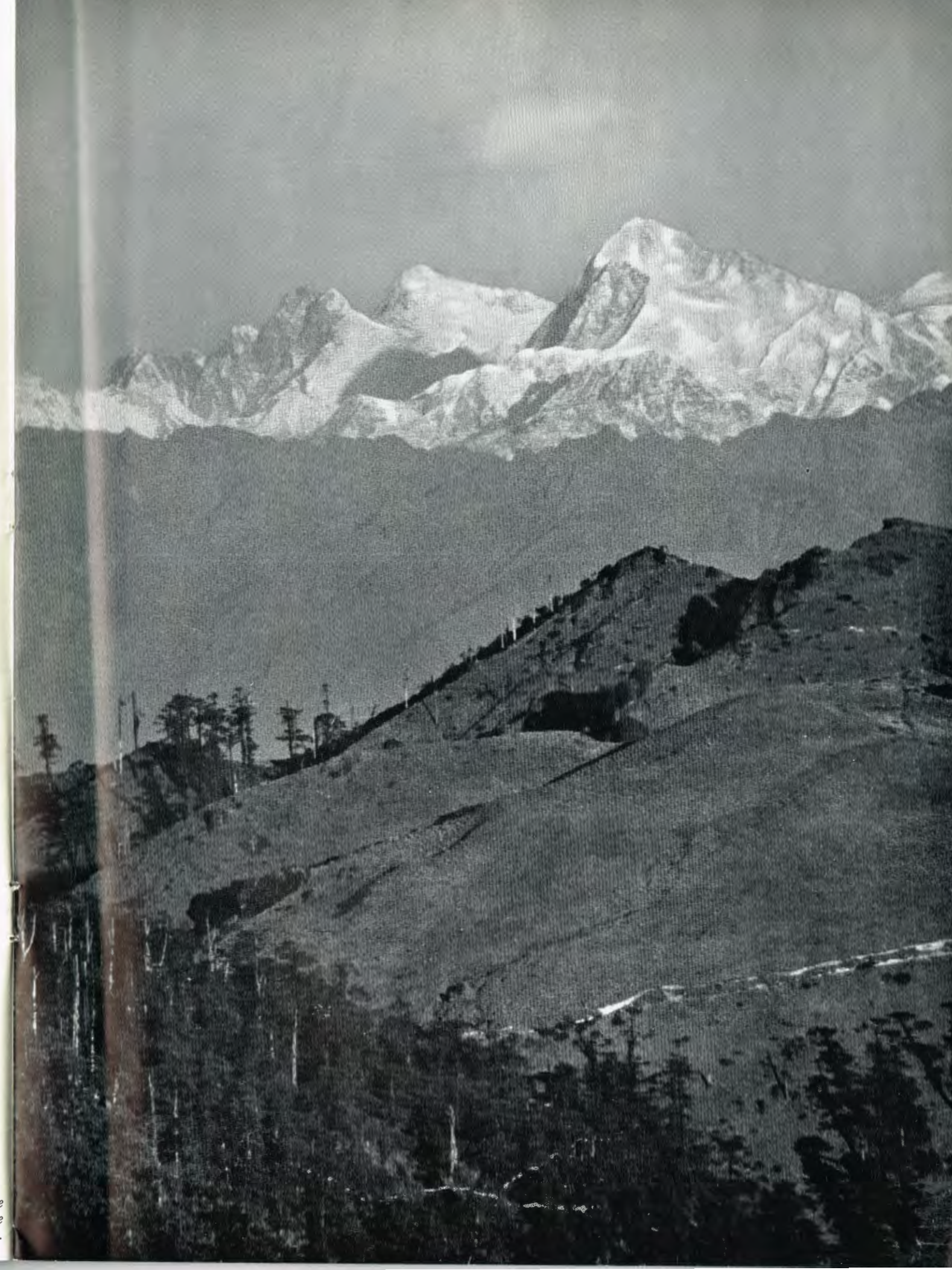
Moreover, like other high isolated mountains, it is particularly subject to violent weather. High winds and snowfall can make it unsafe or impossible to move, even on easy ground. Then at that height it is exceedingly cold; although in the plains

of India, from which Everest is visible in exceptional weather, the temperature in early June may be over 115°, climbers who have been on the upper ridges of Everest at the same time have had to endure 20° below zero. This temperature in high wind would be rapidly fatal without special protection.

Finally, the height of the summit, 29,000 ft. odd, is over the limit at which a man, even one who is acclimatised to high altitudes, can survive without collapse from lack of oxygen owing to the low pressure of the air. Physiologists have calculated that above 28,000 ft. all one's muscular powers are needed for breathing alone, and the loss of body heat in the exhaled breath is such that no one can long avoid freezing to death.

It is no wonder, then, that the greatest height reached by any previous party has been well below the summit. British parties reached 28,000 ft. in 1924 and over 28,100 ft. in 1933. The Swiss last year, making a supreme effort, reached almost exactly the same height, about 28,250 ft., by a new route from the south, and realised that they must then return at once or fail to return at all.

To climb Everest two things are essential: good weather and good equipment, especially warm, windproof clothing and the best oxygen apparatus which can be devised. The planners of this year's British expedition drew on all the experience available in other fields of work at high altitudes and in extreme cold. The R.A.F. and Polar Research Establishments have helped most generously. In consequence our expedition had the best equipment of any mountaineering party in history. Inevitably I.C.I. materials have had their part to play.





Strangely enough, one of I.C.I.'s most important contributions was 'Paludrine.' Malaria might seem an unexpected hazard on a Himalayan expedition, but the preliminaries involve a long approach march through the foothills. Five hundred local porters were needed to transport the expedition's stores to the base of the mountain. The route crosses the grain of the country and descends at times to deep tropical valleys where there are patches of malarious country.

I have been often enough into the Himalayas myself to know how easily a plan can be upset by porters going sick; as recently as March this year, when on holiday in the Central Nepal Himalayas, I had a young Nepalese porter suddenly struck down with malaria at a high camp; 'Paludrine' put him right in a few hours. I.C.(P) also made other contributions, especially sulphur drugs for dysentery, which is fairly prevalent in Nepal.

Another valuable I.C.I. product which the expedition took with it was 'Alkathene' film. This in various forms is an ideal expedition material with numerous uses. While weighing nothing 'Alkathene' bags will keep dry such vital things as sleeping bags in all weathers. Equally they can be used for packing wet clothes until there is a chance to dry them. Some of the foodstuffs taken out from the U.K. were packed in film also.

### *Water from Snow*

Above 20,000 ft. all drinking water—no less than a gallon per man per day at extreme heights—must be melted from snow, and 'Alkathene' bags were taken for carrying the snow and keeping stocks of it near the tents. The photographer to the expedition has some magnificent cine apparatus, and he took 'Alkathene' bags for all his lenses and loose components. This is a most important precaution, for a lens is easily dropped by cold fingers into the snow at a vital moment. Another use for 'Alkathene' is for water bottles, and a number of these were taken. They are very light and robust, and when they freeze up they do not burst.

Nylon is an indispensable part of any mountaineering equipment today. As every climber now knows, nylon ropes have the advantages of light weight in relation to strength and of elasticity, which greatly reduces the risk of a break should there be a sudden fall. Moreover they do not get heavy when wet and they dry out easily. So naturally all the expedition's climbing rope was nylon. Nylon fabrics were also used. Although too cold in itself except as lining material, its toughness makes it an ideal covering for quilted sleeping bags and jackets. The tents were made of a special new material woven from nylon and cotton which has proved far superior on test to anything known before.

The design of oxygen equipment involved some of the most interesting work in the Everest preparations. The problem is, of course, to provide the largest possible supply of oxygen for the longest time for the lightest weight. Working on the conventional method of storing oxygen, as highly compressed gas in cylinders, great advances have been made by using high-tensile light alloy (Duralumin) and pressures of nearly double commercial practice. Then comes the much-debated question

whether to use the open circuit or the closed circuit system. In the open circuit fresh oxygen is drawn in with the breath. This is simple and reliable but wasteful, as at Everest heights the lungs only use about one-eighth of the oxygen and the rest is breathed out. Nevertheless, as was expected, this system provided enough oxygen to turn the scales in favour of Everest being climbed.

In the closed circuit system the exhaled breath is passed over a chemical—usually soda lime—to absorb the carbon dioxide, and what is left is breathed again. The cylinders only need to make up the oxygen actually absorbed by the lungs, so in theory this system is 100% efficient and can supply the climber with an atmosphere of nearly pure oxygen: this makes his breathing equivalent roughly to air at sea level.

In practice the apparatus has disadvantages. The climber must wear a closely fitting face-mask and must breathe against the appreciable back pressure of the apparatus. A great deal of research work went into the closed circuit apparatus, and enough sets were taken to equip at least one assault party. In theory it should be possible to climb the last 3000 ft. of Everest, even carrying the 30 lb. load, as fast as one climbs the last 3000 ft. of an Alpine mountain. But we know that the first assault party, so equipped, failed to reach the summit; at the time of writing we do not know why.

Finally there is a third system, which the Swiss Expedition used, based on potassium tetroxide. The water vapour and the carbon dioxide in the exhaled breath react with this chemical, and oxygen is evolved. As only light canisters are required, the weight even including recirculation equipment is little more than half the best sets using cylinders. This apparatus is used in U.S.A. for mine rescue work and was taken by the Swiss to Everest last year. It appeared in some of the memorable photographs of the since victorious Sherpa Tenzing resting at 28,000 ft. But at that altitude the standard apparatus was a failure, and a great deal of research has been conducted in this country this year to determine whether this system can be modified to be usable at high altitude and low temperature. The problem proved too difficult to solve in time for the expedition, but there are hopes of ultimate success.

### *Butane Cookers*

Cooking at high altitudes is always a problem. The ordinary pressure oil stove, which most people even at sea level regard as an invention of the devil, has let down many a party by refusing to function in the rarefied air over about 25,000 ft. This year butane cookers have been taken for the high camps, and so Billingham has made its contribution.

Even explosives have had a place: a light mortar was taken and was to be fired to bring down from the upper slopes any avalanches which might threaten the party; this is standard practice nowadays in the Swiss valleys in winter.

Last but not least I.C.I.'s good wishes went with the party. Now that they have gained their brilliant success, the many mountain enthusiasts we have in the Company will have been among the first to acclaim it, and the thousands of others in the Company who have followed closely the exploits of the Everest party will join with their congratulations.

# THEY BUILT THEIR OWN HOMES





By Norman Vigars

**H**OUSING is still a popular subject of debate in pub or club, train or canteen. It is also a favourite weapon to beat the opposition in a political argument and a shared gem, with cosh boys and King Farouk, to all newspaper editors.

The energy expended in talking about housing since the echoes of the victory parade died away must be quite considerable. The statistically minded physics student could probably turn it on paper into so many thousand ergs of energy.

Way back in September 1951 a handful of men at Kynoch Works and The Kynoch Press, Birmingham, decided that the talk had gone on long enough. They had heard of building co-operatives being started in various places, but like many constructive efforts these received very little publicity. There were the odd cases of men who built their own roof literally over their head and lived in a hut or caravan until it was complete. But they felt the need for something on a fairly large scale.

The Birmingham men of I.C.I. have always had something of a reputation for team spirit and getting things done; witness the annual summer youth camp and the many self-organised welfare arrangements at Christmas time. So when the first spark of an idea was struck by a Mr. Donald Millward, a compositor in The Kynoch Press, the plan was received by a small group of men with considerable enthusiasm. The first committee was formed and "Operation Homestead" was under way with the bald title of the Kynoch Housing Association.

Like all projects, even a military D-Day, planning dragged on for months before a brick was laid. It took



THE BOYS ON THE JOB. Left to right: F. Hubbard, J. Hollick, J. Woodward, C. Hockey, D. Rushbrook, D. Bowden, T. Price, R. Child, P. Browne, W. Greaves, G. Langford, K. Broadmoor, L. Darby, W. Willetts, S. Morris, R. Shotton, R. Titterton.



FOUNDATIONS ARE LAID in the glare of floodlight. Begun last October, eight bungalows reached dampcourse level by Christmas.

nine months before land was found available in the Aldridge district near Sutton Coldfield. The committee had innumerable meetings with legal advisers, their architect and local councillors. The details of a loan, running into over £45,000, are still not quite complete, although there are now few worries about this.

While the trust deed was being drawn up and rules were being voted into the constitution the "troops" themselves were getting into training. The men obtained experience in the various trades they were going to follow on their own building by attaching themselves to another association already at work on some bungalows. Within six weeks of the most intensive work this Association had built a bungalow. Some of the men told me that it was at this moment, when they saw what they could do, that they knew their own scheme would ultimately succeed.

Their plan, which is quite an ambitious one for the thirty members forming the Association, is to build

eighteen semi-detached bungalows and up to twelve houses. This target may be increased as the scheme progresses and if the Association expands. Bungalows and houses will be allocated on a points system worked out by the committee and based on the number of years married, children in family and present living conditions. Of course, once a man occupies a house or bungalow his work on the scheme does not stop. He goes on until all the Association are housed and the scheme is complete.

Each member has made an initial deposit of £30, and this has been added to since the early planning days.

One of the most inspiring things about the project is the building time allocation the men have drawn up for themselves. It is no less than 22 hours per week. When I was told this, I knew they meant business. If you are working for say 45 hours a week at your normal job, half as much time again spent out on a cold and windy building site every week of the year can only mean you are keen to



a point beyond normal enthusiasm to build yourself a home.

One of the first things the Association bought was a very second-hand lorry. It is an experience travelling in this boneshaker, but it gets you there in flying style and will go off to haul clinker or cement with a will second to none.

Work started on the site last October. Shortly after Christmas eight bungalows were already complete in foundations and footings up to damp-course level. This winter has seen the heavy work progressing in spite of all that the English weather could do. With their huts for stores, carpenter's shop and canteen up, the men dug their first trenches in dry, rather heavy clay. Within three months they were manning the pumps. Yet snow, rain and fog seemed only to increase their incentive.

Under four powerful electric lamps they splashed to and fro with barrows and tools from 7 to 9.30 p.m. every Tuesday, Wednesday and Thursday night, and this



BEARER OF THE 8 O'CLOCK BREW in a thin drizzle of rain is Arthur Jarvis, toolsetter, No. 1 Factory, Kings Norton



LAYING BRICKS FOR THE PORCH are Len Darby and Ray Shotton



CHECKING MEASUREMENTS across the porch entrance

schedule carries on throughout the project. Saturdays they are there from 1.30 until 6.30 p.m. and sometimes later. Sundays are occupied all day from 8 in the morning until 6 at night. Even then, if the assistant foreman says "What about another half-hour to finish this corner off?" they press on. It is this dogged commando-like attitude that makes the scheme so admired by the few visitors they have had.

During the dry spell in early March these men seemed to get a second wind, and walls are now appearing almost overnight. By the end of March one pair of bungalows had walls up to roof level and another pair almost completed. If the weather holds good, the transformation



AFTER SIX MONTHS' WORK by the end of April the walls had been built and the roofs were being put on just as fine weather set in

will be swift to the observer, particularly when more scaffolding is up.

They have been very fortunate in getting the professional services of a building foreman who guides them through all the problems stage by stage. Mr. Gardner is a local builder of some repute, and for a nominal fee he agreed to be around every night until the scheme is complete.

Another side of the picture which made me liken them to troops in a particularly sticky position during the war was the humour. The jokes and banter go on all the time. There are the natural funny men you will always find in any group, but even the quiet chaps will keep things lively by a well-aimed clod of earth if anyone looks like going to

sleep or the chorus of "Don't strain yourself!" to the man with a half-empty barrow. Falls into waterlogged trenches or on wet duckboards—all have produced their full quota of laughs. The advent of a photographer was a good joke, and any visitor who tries to negotiate the mud swamp in city shoes gets a good reception.

It should be interesting to visit this little bit of hard-won enterprise out at Aldridge when the bungalow chimneys have smoke coming from them and the lights gleam behind front window curtains. Having seen the story in its muddy, dirty beginning it will be quite a tonic to see the dream complete for those cheerful men on "Operation Homestead."



# THE RABBIT FANCIER

By Arthur May (General Chemicals Division)

Over a quarter of a million people in this country keep rabbits and there are more than 2000 rabbit shows a year. In fact rabbit fancying is a definite part of the British way of life and has led to the breeding of some remarkably beautiful animals.

**J**UST after the first world war a French priest saw some rabbits playing around the farmyard and noticed that one of them had a most unusually smooth coat. His curiosity was excited and he at once began breeding experiments to try and fix a smooth-coated rabbit strain.

Today these experiments have led to a particularly fascinating form of selective breeding to which the technical term "rexing" is given by rabbit fanciers. The normal fur rabbit has hairs about 1 to 1½ in. long interspersed with longer or "guard" hairs. "Rexing" means the elimination of these guard hairs and the development of the modern rex rabbit with its dense plush-like fur.

This technique can be applied to any strain, so that it is possible to have—as I have at home—rabbits classified as "Sable Marten Rex."

When I started rabbit-keeping, some twelve years ago, I chose the Sable Marten because I consider it the loveliest rabbit of all. In spite of its name, the Sable is not black. Its long silky coat is brown—light, medium or dark—shading to fawn and becoming white under the belly. I bought two does, already mated, and with their offspring began my experiments to improve the markings and later to rex the Sables.

Rabbit-keeping is by no means a rich man's hobby. Anyone, in fact, who can afford to build a simple hutch and buy two rabbits can enjoy it, and with the same chance of success as the wealthiest fancier in the country. If you decide to try it, you will find help and advice yours for the asking.

Go first to a show (there are 50 to 100 every week during the season, so you are bound to find one reasonably near), have a good look at the animals and decide which breed you like best. Then get in touch with the secretary of the local club and ask his advice about buying: he will probably suggest that you start with two does, already mated to bucks of related stock.

One of the greatest advantages of rabbit-keeping as a

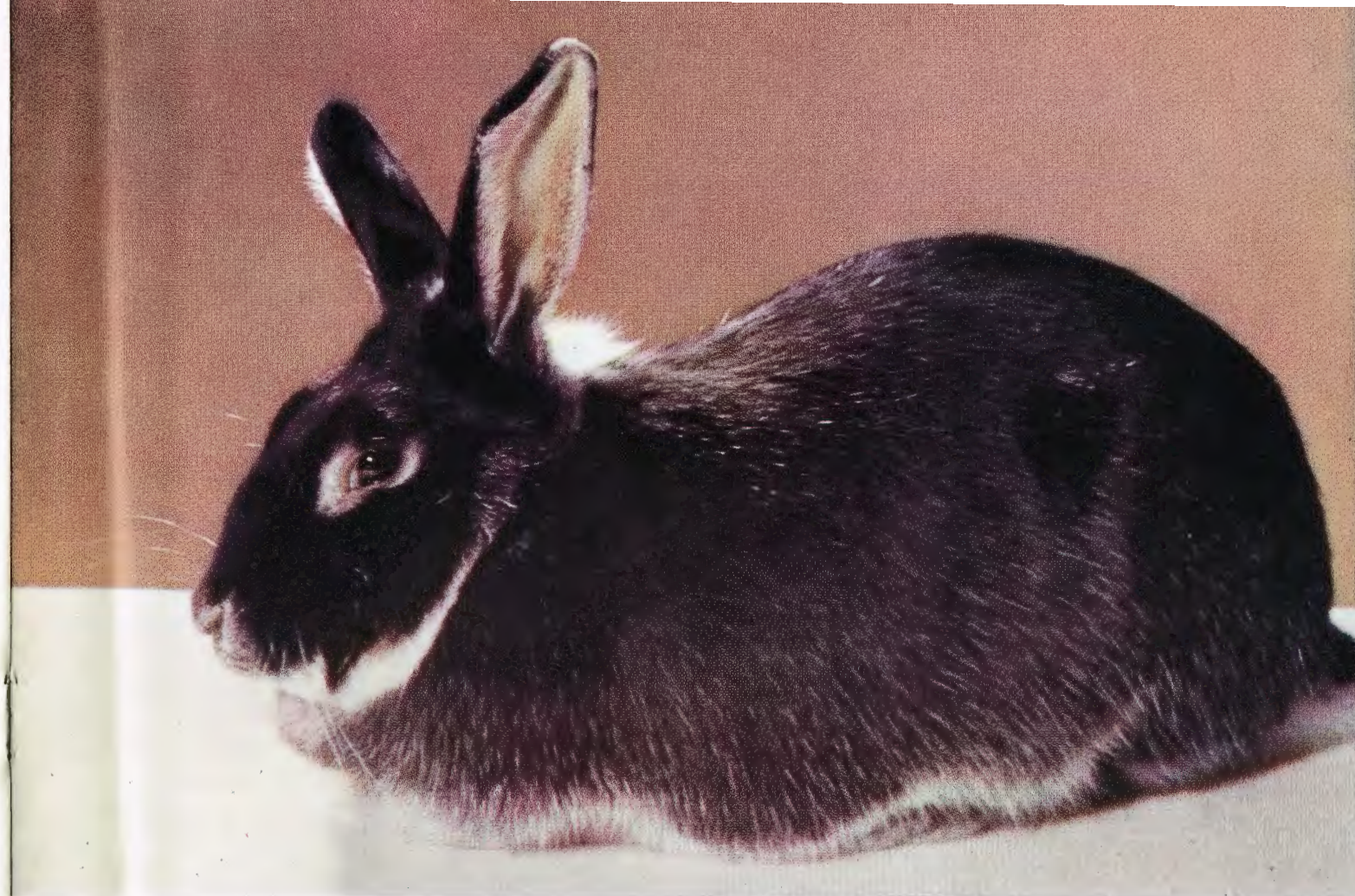
hobby is its diversity. You can choose whether you will keep just one or two as pets or embark on the adventures of breeding and showing; you can specialise in rabbit meat or rabbit fur; or—and this is perhaps the ideal—you can combine any or all of these features.

Broadly speaking, rabbits can be classified in three groups: fancy, normal fur, and rex. The first heading covers the exotic members of the rabbit world—the long-famous English breed, for example, the Dutch and Polish strains, the Black and Tans and the Silvers. These, though they have the advantages of "eating like chicken," are bred for the beauty of their soft skins and the infinite variety of their markings.

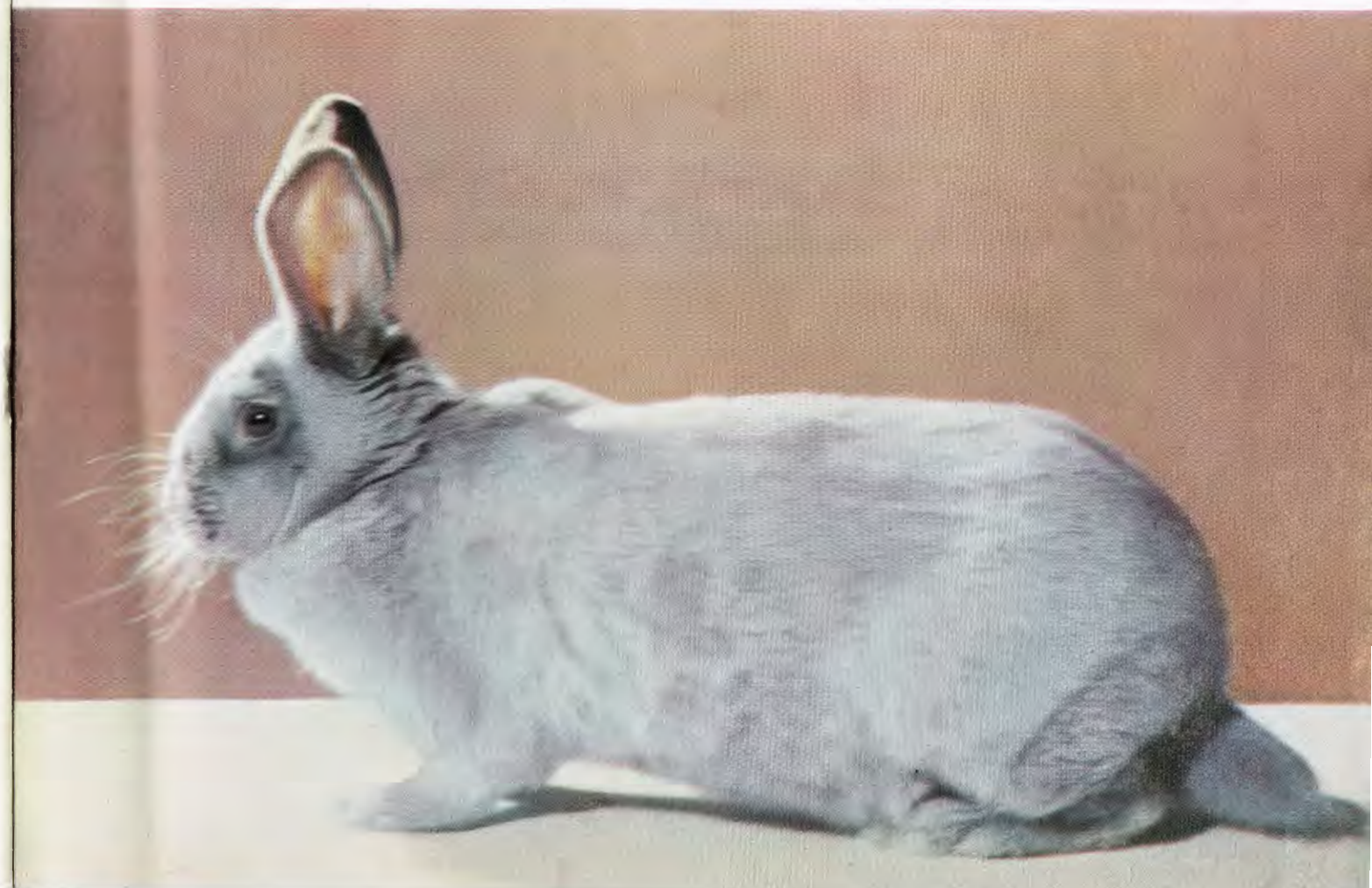
The name of the second group—normal fur—does not mean that its members are dull little brown chaps; it merely signifies that rabbits in this class are still furred as nature intended, though in colour they may range from the slate-blue of the Beveran to the bright brown of the New Zealand Red or the warm chocolate of the Havana. Indeed, some of the loveliest rabbits of all—the Lilacs, Sables and Chinchillas—also shelter under this somewhat utilitarian description. An exciting offshoot of this class is the new race of satinised rabbits, whose fur has the variegated sheen of shot silk.

Successful breeding and showing are not, of course, necessarily the be-all and end-all of rabbit-keeping. All strains provide delectable meat, in quantities ranging from 1½ to 10 lb. dressed weight, and many yield handsome pelts readily accepted by amateur or professional furriers. Whether you are willing to sacrifice your own rabbits to these rather prosaic ends depends—I know from experience—on the degree of affection they have inspired in you.

For rabbits, make no mistake about it, have characters of their own. They may be affectionate or stand-offish, idle or brisk, and as full of whims and fancies about food as the most exacting human beings.



*Above: THE MARTEN SABLE NORMAL. Below: BLUE BEVERAN.*





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# I.C.I. NEWS

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## SIR WALLACE AKERS : MR. W. F. LUTYENS

SIR WALLACE AKERS, I.C.I. Research Director, and Mr. W. F. Lutyens, Development Director, have both retired after long periods of service with the Company.

Sir Wallace retired on 30th April. For five years during

Malaya, but after the formation of I.C.I. he joined the Technical Department in London. In 1931 he was appointed chairman of the delegate board of Billingham Division. He was appointed an I.C.I. executive manager in 1939 and two years later joined the I.C.I. Board.

*Mr. John Rogers, retiring Chairman of I.C.I., writes:*

Sir Wallace has handled the position of Research Director with very great success, and curiously enough a good deal of this success is due to the fact that he did not actually "direct" research; he very skilfully handled those



*Sir Wallace Akers*

the last war he was director of the government's Atomic Energy Research Project, and he was knighted for this work in 1946.

He joined Brunner, Mond & Co. Ltd. as a chemist in 1911 and later became assistant to their technical director. In 1924 he left to take a post with a trading company in



*Mr. W. F. Lutyens*



*Above: THE SIAMESE SABLE REX. Below: THE ENGLISH RABBIT.*





whose business it was to direct research in their various Divisions.

Some few years ago the Butterwick Research Laboratories at The Frythe, Welwyn, were established in order to have a place where work could be done which did not fall clearly into the lap of any one of the Divisions. It was felt desirable that this should be under the direct control of the Research Director. There again Sir Wallace showed his capacity for obtaining loyalty and good work by his very reasonable manner of dealing with those actually doing the work on the spot. This capacity to obtain loyalty has always been very prominent with Sir Wallace, and it is of course due to his integrity and appreciation of his fellow beings. Another characteristic is his encyclopaedic memory for all sorts of things, many of them quite outside his business life.

As many of you know, he did most valuable and remarkable work during the war on what most of us call atomic energy; the circumstances in which this work was carried out caused him to become an authority not only in this country but in Canada and America.

MR. W. F. LUTYENS, who also retired on 30th April, joined Brunner, Mond & Co. in 1913. He enlisted in the army at the outbreak of war but was recalled to Lostock, where he remained, first in charge of the ammonia-soda nitrate process and then as plant manager, until 1924. The next three years he spent investigating problems of costing and plant efficiency. In 1927 he was appointed general manager of Fleetwood Works, and the following year he went to London as assistant to Colonel Pollitt. From 1931 to 1938 he was chairman of the Alkali Group and then became an I.C.I. executive manager. He was appointed to the I.C.I. Board as Development Director in 1941; in 1948 he became responsible for the Heavy Chemicals Group, but again took charge of development in 1951.

*Mr. John Rogers writes:*

I well remember my first meeting with Mr. Lutyens. It was in the early days of the formation of I.C.I. when I went to Fleetwood, at which place he was works manager. It is some years ago, but Bill still possesses a good deal of the handsome appearance which I so well remember. In fact, I remember wondering how a works manager could look so like a film star. With Bill one soon found out that the film star appearance was entirely a side issue and the real grasp of facts and energy to carry out his duties were his chief characteristics.

In recent years his occupation has been Development Director, where his capacity to get facts and information,

coupled with energy, has put a great amount of drive into that department. The Company owes much to his work in regard to nylon and 'Terylene.' His enthusiasm, energy and refusal to be pushed aside by what appeared for the moment to be adverse circumstances did much to bring about what I would call the strong position we are in today. During the period when he was in charge of the Alkali Division the success of that Division owed a tremendous amount to him, due to his practical and administrative experience.

His sport was somewhat like his business, in so far as energy was applied to whatever he did. He was a running Blue, and he used regularly to win the managers' 100-yard race at Winnington, as well as playing rugby with enormous energy. He had more adventurous sports as well, such as those that can be carried out in the presence of lions in Africa, and he was also well known as a forester. Luckily for him, he is retiring comparatively young and is going to occupy himself with—if I know anything of Bill—the same sort of energy that he gave to us.

### CORONATION HONOURS LIST

Two I.C.I. men have been honoured in the Queen's Birthday and Coronation list.

Mr. R. N. L. Clarke, of Alkali Division, is awarded the M.B.E. Mr. Clarke is manager of the Winnington Polythene Plant. The citation particularly commends his successful efforts to increase production and his handling of the many technical staff of foreign polythene licensees who have visited the plant.

Mr. Clarke joined Brunner, Mond & Co. in 1920 as a messenger and rose to be joint manager of the Winnington Polythene Plant in 1947. He has been in sole charge since 1950.

Mr. Michael Scott, a driller in the Billingham anhydrite mine, receives the B.E.M. Mr. Scott was a member of the productivity team which visited the U.S.A. in 1952 to investigate and report on the heavy chemical industry. A lifelong trade unionist, he has been branch secretary and shop steward of the Transport and General Workers Union for many years. He is president of the Billingham Social Club and organiser and chairman of its Workers' Education Association classes. He has been with I.C.I. since 1940.

### DUKE'S MESSAGE TO 'ENDEAVOUR'

A personal message of good will from H.R.H. the Duke of Edinburgh appears in the July issue of *Endeavour*, the quarterly scientific review published by I.C.I. His Royal Highness has already honoured the journal on two previous occasions by presenting the *Endeavour* essay prizes at meetings of the British Association. Royal patronage of science is the subject of a special editorial in the July issue.

*Endeavour* is now in its twelfth year of publication. It is distributed without charge to senior scientists, scientific institutions and libraries in every country in the world. Editions



BUCKINGHAM PALACE.

"Endeavour" is doing a wonderful job keeping general readers, as opposed to specialists, informed of the progress of scientific research and technology in this country.

I hope that the journal will never be short of readers; I am sure it will never be short of material.

*The Duke of Edinburgh's message to Endeavour*

are published in five languages: English, French, German, Italian and Spanish.

### ALKALI DIVISION

#### *A Century of Goals*

When Ralph Hewitt, the I.C.I. (Alkali) Football Club's centre forward, scored his fourth goal in the last few minutes of the last game of the season he won a more than ordinary round of applause, for it brought his total for the season to 101—a record for the mid-Cheshire League.



*Mr. Ralph Hewitt*

Cup, the Northwich and District Challenge Cup, and the Mid-Cheshire League's Best Amateur Trophy. He even put time in for the Warrington League team at the end of the season, helping them to win Division I of their league.

Ralph Hewitt has also played in the Mid-Cheshire League representative team. In the Division knock-out competition his team, the Packages Department, pulled through to the final, but unfortunately he could not add to the score there and the Packages were beaten by one goal by Construction Area F.

#### *Lawson Memorial Exhibition*

The exhibition of entries for the Lawson Memorial competition is by now a popular date on the Winnington social

calendar, and it was very encouraging to everyone concerned with its organisation to see the steady stream of visitors—1864 in all—that passed through this year's exhibition, held during the last week in April. The visitors were confronted with 42 entries of art and handicraft of such high standard that there were many puzzled faces as they tried to select four entries worthy of being prizewinners.

The trustees of the fund—raised in memory of the late Mr. Digby Lawson, a former chairman of the Alkali Division board—awarded the first prize, a book token worth £4, to Mr. A. L. Price, of the Electrical Workshops, Winnington, for his ingenious model of the Coronation coach and fifty outriders moving on an electrically driven belt. Mr. T. Szczepanski, a crane driver and pilot at Winnington, won second prize for his painting "A Woodland Scene," a study in beautiful, delicate tones of a well-known local beauty spot. An intricately worked piece of Elizabethan-style blackwork embroidery gained third place for Miss E. Merrill of the Magadi Soda Company Ltd.

### BILLINGHAM DIVISION

#### *Atomic Photography*

This notice will become more and more familiar to people in the Billingham factory during the coming months and it will signify the increasing use of radioactive materials for a variety of jobs.

For about four years radioactive materials from the atomic research station at Harwell have been in use at Billingham, mainly for tracing the flow of cooling

water supplies and for tracing leaks, but they are now being increasingly used in place of X-ray apparatus for photographing welded joints in order to check for faults.

For tracing, a minute quantity of radioactive phosphorus is put into the flow of water whose course is to be traced. Samples are taken at various stages and submitted to test in the laboratory with a Geiger counter, which will detect the presence of radioactive material. A similar process is followed for the detection of leaks in factory plant.

Another interesting use to which radioactive phosphorus has been put is in tracing the absorption of fertilizers in growing plants. A very small quantity is incorporated in the fertilizer, and by testing parts of the plant with the Geiger counter the degree to which the fertilizer has been absorbed can be ascertained.

For photographing welded joints a "source" is used. It consists of a thick outer casing of lead in which is a capsule of radioactive material about the size of a pill. There is an aperture in the casing which can be opened to direct the rays on to the metal to be photographed, a piece of film being attached to the metal. By this means a negative is obtained similar to that obtained by X-rays.

The great advantage of the use of the radioactive material is that the "source" is small and manageable, whereas X-ray apparatus is large and bulky. Another advantage of the method is that it is cheaper.

The substances most used are iridium—the metal of which the tips of gold fountain pen nibs are made—and cobalt. The useful life of radioactive iridium is about seventy days, by which time it has lost half its radiation and is sent back to

### RADIATION AREA

UNAUTHORIZED PERSONS  
KEEP OUT



Harwell for reactivation. Radioactive cobalt, however, takes about five years to lose half its radiation.

### Mr. D. G. Underwood : Dr. F. Booley

Billingham has recently lost two important and well-liked members of its staff by the early deaths of Mr. D. G. Underwood (factory instrument manager) and of Dr. Frank Booley (Gas and Power Works manager).

Mr. Underwood had been with the Company since 1927. He joined as assistant process instrument manager and at the time of his death was factory instrument manager for the Division. He will be remembered at Billingham for his understanding of the problems—human, technical and economic—of instrument maintenance, for his invaluable contribution to the establishment of nationally accepted courses of training for instrument workers, and for his part in establishing the very active Tees-side section of the Society of Instrument Technology, of which he was chairman from 1950 to 1952. In particular his shrewdness, common sense and ready helpfulness were highly esteemed throughout I.C.I., and indeed outside the Company. A few years ago his professional standing was recognised by his election to fellowship of the Institute of Physics.

Dr. Booley joined Billingham Division in 1933, and except for two years in the Research Department his career at Billingham was spent on operating plants. After occupying a series of important managerial positions on the boiler plants and coke ovens he was made Gas and Power Works manager in 1951. His practical experience and his intense scientific interest in the utilisation of coal made him an acknowledged expert on coal combustion and carbonisation. He was an enthusiastic member of the Coke Oven Managers Association, being chairman of the Northern Section in 1941-2. For many years he was a member of the Northern Coke Research Committee and was chairman in his last two years before retiring on grounds of ill health. He was also a member of the Council of the British Coke Research Association for seven years.

### DYESTUFFS DIVISION

#### Visitors to Grangemouth

The Minister of State for Scotland, the Rt. Hon. the Earl of Home, P.C., visited Grangemouth Works in May in the course of a tour of industry in the district.

At a luncheon of the local chamber of commerce the



The Minister of State for Scotland (right) talks with works manager Dr. W. G. Reid (left) and Dr. R. W. Lapsley

Minister made a speech praising the meteoric rise of Grangemouth from a small port to an industrial town unique in Scotland. It might well be, he said, that the expansion of Grangemouth would end in the transformation of the district to something like the village which Daniel Defoe used to praise and which had become the Glasgow we know today.

The works had other visitors during the month. They were Mr. P. C. Allen, I.C.I. Director responsible for paints, plastics and leathercloth; Mr. C. R. Prichard, Development Director; Mr. D. J. Roberts, a non-executive director on the I.C.I. Board; and Mr. E. O. Wisbey, former works manager at Grangemouth, who came with a party of members from a Society of Chemical Industry conference, of which he was chairman.

### Champion Breeder

It is just ten years ago that a friend asked Mr. Len Stansfield, general foreman seconded to Billingham Construction Department, to look after his dog while he was on holiday. The dog was a valuable spaniel, and Mr. and Mrs. Stansfield took it in their charge with misgivings, with visions of torn rugs, damaged furniture, special foods and long walks.

Now Mr. Stansfield is a spaniel breeder in his own right, and a very successful one at that. Far from finding their canine visitor a burden, the Stansfields were fired with enthusiasm to have a dog of their own. They bought a good red spaniel, and at their friends' insistence began to enter it at



A baleful look from Mr. Stansfield's champion cocker

shows. At first they won few prizes, but they gained invaluable information and experience. Then Mr. Stansfield bought a bitch and launched out on a career of spaniel showing and breeding which has brought him countless honours in county and national shows.

It was not all plain sailing. After winning him thirty prizes, three of the puppies died of hard-pad. Mr. Stansfield then bought a six-weeks-old roan puppy, and at the end of six months she had won 32 out of 34 classes at breed and open shows. But another blow fell when this puppy, Marlyn of Lenwood, contracted hard-pad. She survived only because of Mrs. Stansfield's care and went on to win more prizes.

Marlyn's puppy Meryl in turn won 44 awards. Now both are in whelp and the Stansfields hope that the new generation of puppies will provide more prizewinners.

### Nylon Marksman

Mr. Jimmy Horan, crack rifleman, who is a turner in the machine shops of the Nylon Works Engineering Department, has entered the National Small Bore Rifle Association's competition which decides the team of twelve to represent England in America in the international competition for the Pershing Trophy.



Mr. J. Horan

In the preliminaries, which are shot off at a local range in the presence of independent witnesses, Mr. Horan submitted six metric cards with a score of 595 points out of a possible 600 and qualified for round 2. In round 2, which consists of two Dewar courses, he dropped only 7 points out of a possible 800 in his four cards at 50 yards and four at 100 yards.

From the results of the second round the top twenty were to be notified that they had got through to the final stage, which was to be shot off at Bisley on 28th June.

### Simultaneous Chess Display

Dr. E. G. Ansell of the Chess Section of Blackley Works Recreation Club, who was beaten recently in the final of the Manchester open championship, played his first simultaneous match recently. The display took place in the club, where after his challenge to all comers he found himself opposed by fifteen members of the section, nine of whom were regular first- and second-team players.

At 7 o'clock Dr. Ansell started his walk round the tables, which was to continue for nearly four hours. At 9.30 p.m. the first results came in; a loss for Ansell against McCaw and a narrow victory for him over Topliss, who had played an extremely plucky game. A little later Silverstone succumbed



Surrounded by his opponents, Dr. Ansell ponders the next move

(protesting strongly that one of his horses had been nobbled!). Then came the other results, mostly wins for Ansell, interspersed with an occasional loss or draw. The last result was the game against Standing; though the exchange to the good, he had been labouring in a confined and restricted situation, and when all the other games were decided Ansell was able to bring his full forces to bear and Standing lost.

The display must have been a severe test, and Dr. Ansell is to be congratulated on a splendid result of 9 wins, 2 draws and 4 losses.

### GENERAL CHEMICALS DIVISION

#### Appointed to Atomic Energy Post

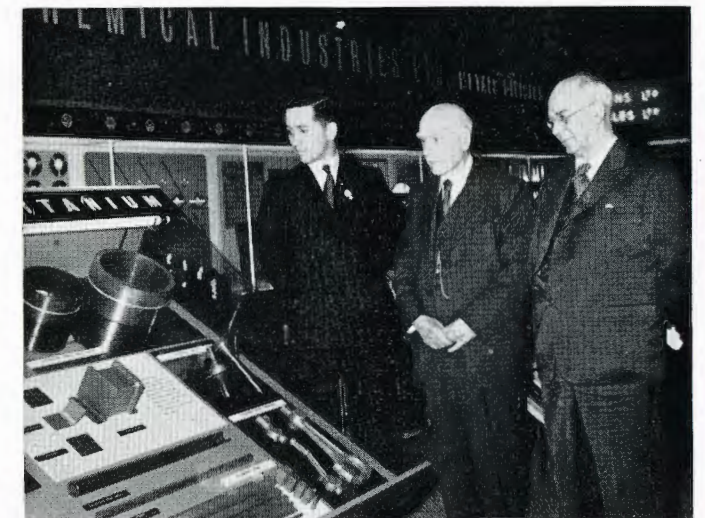
His old friends in the Division will be pleased to hear of Professor J. P. Baxter's appointment as a member of the newly created Australian Atomic Energy Commission.

Now Professor of Engineering at the New South Wales University of Technology, he left the board of the Division in 1944 to become deputy manager of the factory in the U.S.A. which produced the first atomic bomb. After the war he helped to establish British atomic energy projects.

While he was with I.C.I. Professor Baxter directed the research work which led to the production of 'Perspex' and the rubber chemical 'Alloprene.'

### METALS DIVISION

#### I.C.I. Family inspects New Recruit



In the picture above a family with many years of service to the Division to its credit is seen examining a comparative newcomer to I.C.I.

They are Sir Arthur Smout (right), who recently retired from the Board of the Company, his father, who at 93 years of age is one of Elliott Works' most senior pensioners, and his son, a metallurgist on the staff at Metals Division headquarters. The newcomer is metallic titanium—the "new wonder metal," as the Press has dubbed it—which appeared in public for the first time in its wrought form at last year's British Industries Fair. This year's display included examples of cast metallic titanium, wrought sheet, strip, tube, wire, and fabricated articles ready for use.



### Pensioner elected Mayor

The recent election of Councillor D. J. Fisher as Mayor of Swansea reflects great honour on Metals Division.

Mr. Fisher, who retired from industrial life in 1950, spent more than fifty years at Landore works. A conscientious trade unionist and a great believer in joint consultation, he represented his fellow workers as shop steward or works councillor for the whole of the period from 1912 to 1943. He was also for some years a steward of the I.C. Workers Friendly Society.

It was in 1933 that Mr. Fisher first started to take an active part in local government. The great honour recently conferred on him makes a fitting climax to twenty years of unselfish efforts in the public interest.

### Good Sportsmanship Rewarded

A big surprise ended the 1952-3 season for the football club at Allen Everitt Works. Quite unknown to players and officials, the Birmingham and District Referees Association had been throughout the season collecting special reports on the efforts of hundreds of clubs in the Works Amateur Football Association. In the middle of May the secretary of the Allen Everitt Club was invited, with two other representatives, to attend a dinner and receive, on behalf of the two football teams, an award of merit for good sportsmanship on and off the field.

The letter added that selection had been very difficult and that after full consideration the Allen Everitt Club had been declared runners-up. At Smethwick they have always thought that good sportsmanship (like virtue) has its own reward, but it is pleasant to find the fact acknowledged in so tangible a form!

## NOBEL DIVISION

### Sailing Barges in Thames Race

In the Thames sailing barge race held in May two barges belonging to the Division's depot at Gravesend were placed second and third in the restricted staysail class.

As the last of these races to be held, this year's was a melancholy, if historic, event. Thirty years ago there were more than a thousand of these red-sailed barges plying the river and estuary, with cargoes ranging from stone to turnips. Now there are only some thirty left, of which eight belong to



Skippers Spillett and Shepherd (front centre) and the crews of the Thames sailing barges Dreadnought and Revival

I.C.I. The two entered in the race, *Revival* and *Dreadnought*, are both more than fifty years old.

The sailing barges are used by Nobel Division to carry explosives from the Chapman anchorage, near Canvey Island, to ships or up-river to storage hulks at Mucking Bight, just below Gravesend. For many years they have been operated by a separate company owned by I.C.I. called Successors to Thomas Francis Wood (Gravesend) Ltd. This company now forms an integral part of Nobel Division.

A full-length feature on I.C.I.'s barges will be appearing in a future issue of the *Magazine*.

## SALT DIVISION

### The First Packets of Salt

The guests at a recent pensioners' party at Winsford included a husband and wife with a remarkable record of service. They were Mr. and Mrs. John Astles, who between them have given 95 years' service to the Company.

Mrs. Astles was Packing Room forewoman until her retirement, as her mother was before her. It was on the kitchen table of her mother's house, according to Mrs. Astles, that the first packets of salt were ever filled. Before Salt Division was formed her father, Mr. J. T. Brookes, worked for H. E. Falk, an important salt manufacturer at that time. At Falk's suggestion Mr. Brookes cast a special block of fine open-pan salt and dried it in his kitchen oven. The dried block was then crushed between the rollers of an ordinary washing mangle and the salt packed into small cartons about the height of a matchbox to be used as samples. From this small beginning the sale of packet salt became an important part of the salt trade.

These early packets of salt contained a grade the Division now sells as cooking salt. Free-running table salt and household salt are made these days by the vacuum process and packed by machinery which can outstrip even the nimble fingers of the hand packers Mrs. Astles remembers so well.

Salt, incidentally, is one of the few I.C.I. products sold over the counter. Most grocers stock I.C.I. salt, and those who do not will obtain it if you ask for it by name.

## C.A.C.

### Mr. H. E. Tresham

Mr. H. E. Tresham, Chief Accountant of Central Agricultural Control, died suddenly on 21st April.

Mr. S. W. Cheveley, chairman of C.A.C., writes:

The tragic death of Herbert Tresham most profoundly affected everybody in C.A.C. Herbert had been on the accounts side of agriculture in I.C.I. since the very beginning and had been chief accountant of C.A.C. since its formation.

He was a valued personal friend of all of us. For many years no meeting, discussion or festivity was considered complete in his absence. All through the years he gave his full attention to every problem submitted to him and was never happy until he had produced the right answer.

His knowledge of farm costing—a major part of C.A.C.'s work—was profound. As long ago as 1928 Herbert was engaged in the first farm costings investigations we ever undertook. At the time of his death a body of work had been produced in his department unmatched in the world in this particular field. It will be a very long time before any of us forget him.

## FAR EAST

### Retirement of Mr. Collar

Mr. H. J. Collar, C.B.E., vice-chairman of I.C.I. (China) and chairman of I.C.I. (Japan), is now in the U.K. enjoying a well-earned home leave before retiring from the Company's service.



Mr. H. J. Collar

After graduating in chemistry at Oxford Mr. Collar joined Brunner, Mond & Co. (China) Ltd. in 1924 and in 1930 was appointed divisional manager in Tientsin. In 1934 he was appointed Shanghai sales manager and in 1939 a director of I.C.I. (China).

At the outbreak of war in the Far East he was chairman of the British Residents' Association in Shanghai. From November 1942 to August 1945 he

was interned in Shanghai and Peking under the Japanese. During this time he acted as camp representative and was subsequently awarded the C.B.E. in recognition of his untiring and courageous work on behalf of his fellow internees. When the war ended he returned to the Company's service in Shanghai after a period of recuperation in Canada.

In 1948 Mr. Collar was transferred to Hong Kong and appointed vice-chairman of I.C.I. (China). He was also appointed a director of the Hong Kong and Shanghai Banking Corporation. In 1950 he was appointed chairman of I.C.I. (Japan). Last year he was elected chairman of the Hong Kong General Chamber of Commerce and was appointed a member of the Hong Kong Legislative Council.

Mr. Collar has recently taken up the appointments of secretary to the China and Japan Associations in London, and will thus remain in touch with the affairs of the Far East to which he has devoted so many years of his life.

His friends will wish him every happiness in his retirement and hope to see very much more of him than has been possible during his service overseas.

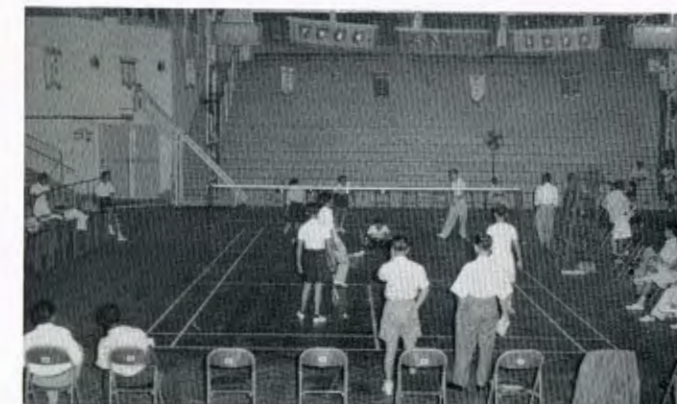
### Young Peach Trees

Two I.C.I. recreation clubs in the Far East started since the war are now flourishing as sturdily as any at home. They are the Club of I.C.I. (Malaya), rehabilitated in 1949 after a wartime lull, and the I.C.I. Recreation Club at Hong Kong, founded in 1952.

The I.C.I. Recreation Club in Malaya has its headquarters in Singapore, where the membership is 140, and there is a branch at Kuala Lumpur. Badminton, which might be called the national game of Malaya, is the favourite with members and their standard is extremely high. They also play soccer, table tennis and "carrom," which is a simplified form of billiards. On the social side there are "get-togethers" once a month, as well as dinners and dances.

The Hong Kong Club, the Chinese honorary secretary says, has "blossomed like a young peach tree." In a temporary clubhouse provided by the Company members play a variety of games, including badminton, bridge, squash, table tennis

and Chinese chess. Out of doors they play tennis, hockey, basketball, seven-a-side football, and golf. Some of the Company's larger Hong Kong distributors and agents have given challenge trophies for single events, and Mr. A. V. Farmer,



Badminton practice at the Singapore Club

chairman of I.C.I. (China) and honorary president of the club, has given a *Victor Ludorum* challenge trophy which goes to the best all-rounder in fourteen games and hobbies.

This year the trophy was won by Mr. Y. T. Loke. It was presented to him by Mrs. Farmer at a Chinese dinner given



A game of Chinese chess at the Hong Kong Club

in honour of Mr. H. J. Collar, C.B.E., the retiring vice-chairman of the Company. Mr. Loke has another, but very different, claim to distinction. One of his sons was born on board a British warship, H.M.S. *Cape Town*, during the evacuation of Hankow in 1937, and has a vice-admiral for a godfather.

## I.C.(P)

### Visit of African Ruler

In May I.C.(P) was honoured by a visit from the Omugabe of Ankole, the ruler of an autonomous kingdom in Uganda who was in Britain as a state guest for the Coronation.



The Omugabe spent the afternoon with Dr. D. G. Davey, studying the work being done on trypanosomiasis—the cattle disease carried by tsetse flies which is prevalent in Uganda



The Omugabe of Ankole (right) and a member of the Uganda legislative council with Mr. P. A. Smith and members of I.C.I.(P)

and many other parts of Africa. He had previously been entertained to lunch by Mr. P. A. Smith, chairman of the delegate board of I.C.I.(P), and met representatives of the technical and sales staffs.

## THE REGIONS

### 'Ardil' in the North

'Ardil' went north in May to the textile counties of Yorkshire and Lancashire, and scored a big success.

The I.C.I. exhibit at the Earls Court section of the British Industries Fair had attracted so much attention that arrangements were made at short notice to transplant the 'Ardil' section of it to Bradford and Manchester. In these towns Nobel Division and Northern Region jointly staged a four-day exhibition, to which some 1200 people—mostly directors of textile companies—were invited. 1100 of them attended, and the hard-pressed staff on the stands coped with a great variety of complex questions.



North country textile executives admire I.C.I.'s synthetic fibre

## S.A. AZAMÓN

### Long Service Award

During a recent visit to Madrid, Mr. W. J. Worboys, Commercial Director of I.C.I., presented a 20 years Long Service Award to Mr. G. G. Fowler, managing director of S.A. Azamón, the I.C.I. company in Spain.

This is the thirty-fourth Long Service Award to be pre-



Mr. Fowler (left) receiving his award from Mr. Worboys

sented to a member of the Company. S.A. Azamón was constituted in 1925, and there are still one or two employees still serving who were with the Company then, notably Señores J. Solet and M. Garrido.

The presentation to Mr. Fowler was witnessed by Mr. Remy Thiebaut, president of S.A. Azamón; Mr. R. B. Crane, director; and several senior and long service members of the staff.

★ ★ ★

## OUR NEXT ISSUE

The *Magazine* is breaking new ground in August with the publication of reproductions of paintings by a contemporary artist—L. S. Lowry. The story of this highly individual painter is a fascinating one. Living as a recluse in Manchester with his parents, he painted for nearly thirty years before receiving recognition. Today his paintings, which invest the grime of industry with a new beauty, have won him a place in nearly all the public galleries of Britain.

We lead the issue with an extract from the talk on synthetic fibres given to the last Central Council by P. C. Allen, Director responsible for the 'Terylene' Council. Synthetic fibres, and particularly 'Terylene,' have a tremendous future, and Mr. Allen sets this future simply and clearly against the perspective of the development of synthetic fibres since the turn of the century.

On the lighter side we have two rather unusual contributions. Mr. Alex Jardine, a well-known fisherman who advises I.C.I. on 'Luron,' writes on an evening's sea fishing after school bass; and Mr. A. E. Ward, who is over 80 years old and a former director of Salt Division, gives a most vivid description of the monkey dance of the natives of Bali which he witnessed on Bali island in 1936.



Badger's sett 300 yards from hospital grounds



His tracks across the fields

# BOLD BADGER

By M. J. Veale

THESE rather unusual photographs of a badger were taken by me in September last year when I was in Milford Sanatorium near Godalming in Surrey. For the photograph of the badger in the garden I had to lie flat on the ground with the camera at ground level waiting for him to walk into range.

My calculations as to where the badger would appear were based on the position of the bait of sweet biscuits. This was placed 8 ft. from where I had the camera, and I actually took the photograph at 10 o'clock at night using a Voigtlander Vito I camera. For those interested in the technical details the photograph was an open flash at f8 with Philips PF14 bulb on Ilford FP3.

The photograph of the badger entering the hospital was taken by me sitting up in bed. This was at a range of about 11 ft. and with a flashlight.

Although badgers are strictly nocturnal they do not seem to mind flashlight. I have switched on the light while they were actually in the room, and they take no notice but just carry on feeding. This is probably the result of confidence accumulated by the sanatorium feeding them for over twenty years. Somebody in the sanatorium once took a picture which showed a badger and a half-wild cat together, about a foot apart, and obviously not minding each other at all. The man who took this flashlight photograph did not know the cat was there until he developed the film.



Down the garden path



Entering the hospital to bait of sweet biscuits



# TEA FOR TWO

By F. M. S. Harmar-Brown (Central Publicity Department)

(Illustrated by Martin Aitchison)

"THE Erlibroo," said the advertisement, "makes rising a pleasure." And it went on to explain how, for 10s. down and 51 weekly payments of 2s. 7½d., you too could savour the exquisite pleasure of being awakened by the musical trilling of a silver-noted bell to the steaming fragrance of a pot of delicious morning tea. "Just plug it in when you retire," said the advertisement, "and the Erlibroo does the rest."

I could hardly wait to get the Erlibroo home. "Look, dear, a little present for you," I said fondly as soon as I got inside the door. "Now I shan't have to get up every morning to make your tea." Together we unwrapped the Erlibroo and erected it on the kitchen table. "Well, come on!" said Cynthia. "Let's see it make a cup of tea." So we filled the kettle part of the Erlibroo with cold water through what the instructions rather pompously termed "the orifice provided," set the clock to half-past six, the alarm to twenty-five to seven, "positioned" the teapot under the delivery tube of the kettle, put two spoonfuls of tea in it, plugged the Erlibroo into the mains, plugged the kettle into its connector, switched on, and sat back to await events.

The time was now almost thirty-one minutes past six—T — 4. At T — 3 the front doorbell rang. Cynthia, presumably overcome by reverence for the Erlibroo, tiptoed to the door. It was our friend Harbottle, come to invite himself to supper. "Hullo-ullo!" said Harbottle heartily. "Ssh—quiet!" hissed Cynthia. "Why, what's up?" began Harbottle. "Can't you see? We're having a cup of tea." "Yes, yes, of course. Stupid of me," said Harbottle, and we all sat down again, regarding the Erlibroo apprehensively. T — 2 . . . T — 1 . . . T — zero. The Erlibroo emitted a sharp click and the lights dimmed momentarily, but otherwise there was no sign of life from the machine. At T + 4 the kettle began to sing. At T + 6 it emitted pranging and burping noises. Cynthia covered her face and Harbottle moved his chair away from the table. At T + 7 a wisp of steam ascended from the delivery tube. By T + 9 the tension was almost unbearable. "Three Killed as Pot of Tea Explodes," said Harbottle rather hysterically. I remained calm. At T + 10 the Erlibroo suddenly and decisively emitted a jet of

boiling water into the teapot. And then—the ingenuity of it!—as the teapot reached what the atom scientists would call its critical mass, it weighed down on a see-saw contact that switched off the power to the kettle and switched on the alarm. It was a strident and virile alarm. The friendly tinkle of my old and trusted clockwork alarm was no more than a faint chirping of crickets by comparison.

Cynthia recovered from the shock first, and with unexpected promptness she aimed a glancing blow at a button on the top of the thing, marked "STOP," mopped up several drops of boiling water from the polished table, put the lid on the teapot, and, with an aplomb worthy of a greater occasion, said "Tea, gentlemen?" With our ears singing, and feeling a little shaken, we all had a cup of tea.

After supper Harbottle insisted on helping us to adjust the Erlibroo for the following morning. First I set the alarm for seven o'clock. "Hey, wait a minute!" said Harbottle. "Remember the alarm doesn't actually ring until T + 10; you'll miss your train at that rate." So I reset the thing for 6.50. Then I filled the kettle, washed out the teapot and positioned it on its platform, and carried the apparatus up to the bedroom and plugged it in. "Have you plugged in the kettle connector?" asked Harbottle. "I have now," I said. "Don't you think," suggested Cynthia, "that you ought to set the proper alarm as well?" "Nonsense, my dear!" I replied firmly. "There's nothing improper about the Erlibroo. I have the utmost confidence in it."

All the same, I could not sleep easy. I kept on waking up and wondering whether the Erlibroo had gone off or not. Just before 6.50 I was wide awake, looking at my wrist watch by the pale light of dawn and listening intently for the sharp click that would show that the Erlibroo was on the job. The Erlibroo did not fail. At ten to seven it clicked sharply, and a few minutes later I was listening to the friendly noise of its kettle coming to the boil. At seven it duly boiled, I heard the teapot fill, and off went the alarm. Only when I had poured myself out a steaming cup of hot water did it dawn on me that I had forgotten to put any tea in the pot. So much for



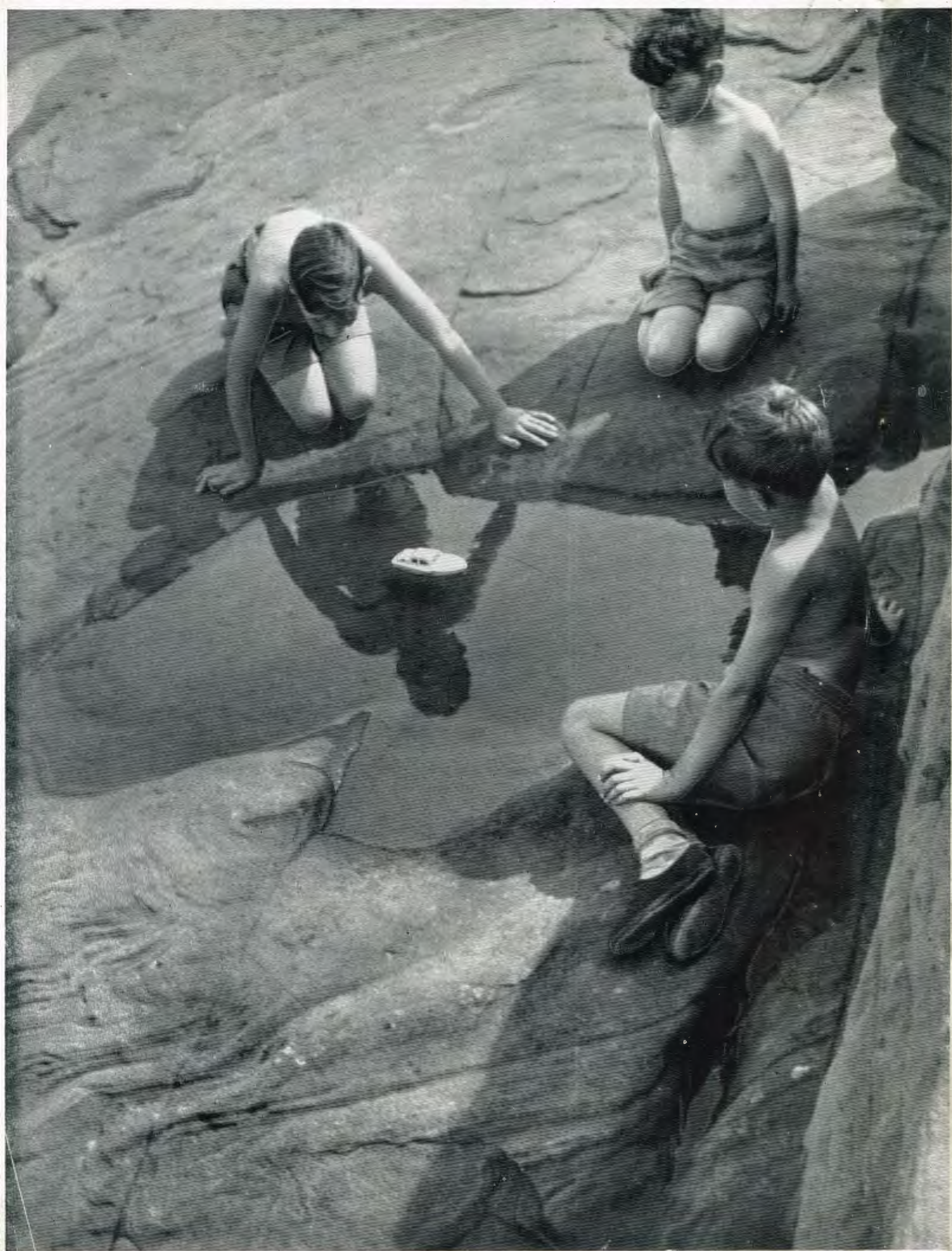
... I became nervous—irritable—depressed ...

Harbottle. Naturally, I did what anyone else would have done. Cynthia was still asleep, so I went quietly downstairs, made a fresh pot of tea in the pot of the Erlibroo and put it back on its little platform. "Tea, dear?" I called out with gay duplicity.

The next three mornings were uneventful—the Erlibroo worked perfectly. Then I began to get overconfident. First, I forgot to fill the kettle, and the Erlibroo did not go off at all in consequence. A few evenings later I omitted to plug the kettle connector in, and I was wakened by a rousing peal to discover a kettle full of cold water and an empty teapot—the very essence of anticlimax. Then one night I left the lid on the teapot by mistake and

the Erlibroo poured boiling water all over the rather nice little bedside table—having wakened me just in time to watch it doing it. After that Cynthia insisted that I made a list, headed "Points to be Remembered when Setting the Erlibroo," and checked them every night. By this time my morale had been permanently undermined. I slept fitfully and woke early. I became nervous, irritable, depressed. Finally I gave in, and now the homely, dependable ticking of my old alarm clock lulls me to peaceful slumber as it always did. Now, then, would anyone like to buy a really wonderful gadget for waking you up to the steaming fragrance of a cup of delicious tea? Only £3 down, and never mind about any instalments!





*"The Three Mariners"*

Photo by A. B. Woolley (General Chemicals Division)